

## Pat nt Abstracts of Japan

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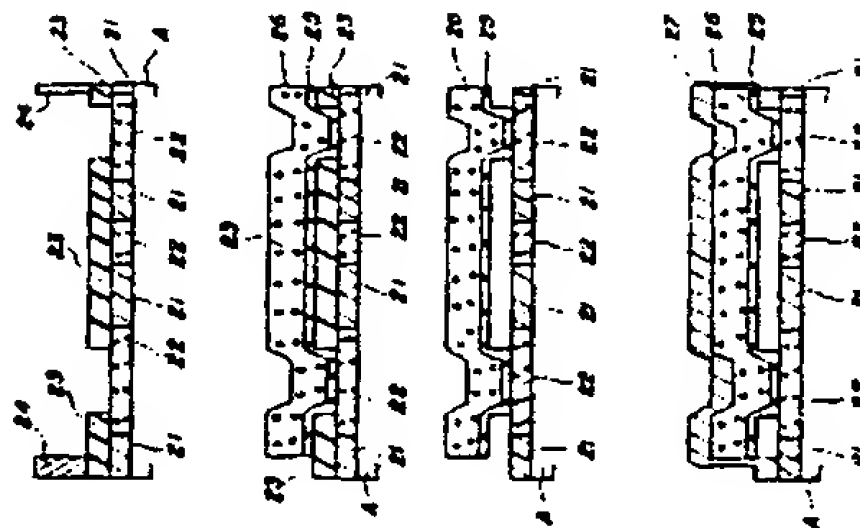
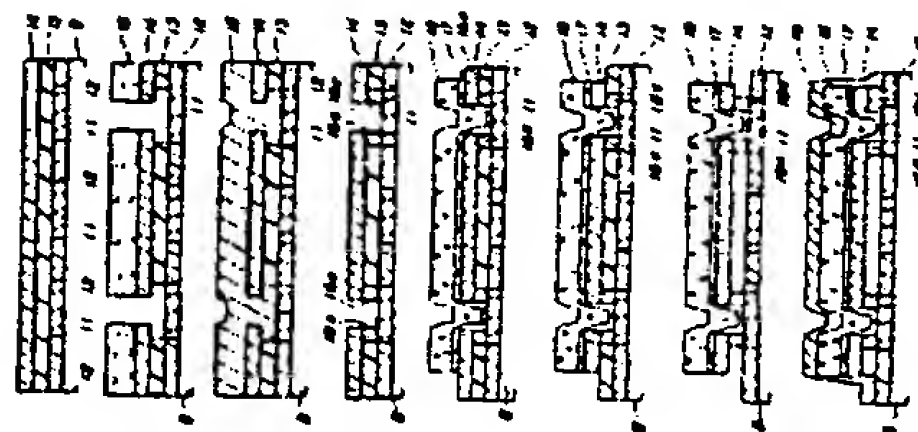
APPLICATION DATE : 14-04-88  
APPLICATION NUMBER : 63092101

APPLICANT : SHARP CORP;

INVENTOR : NAKAGAWA YASUHIRO;

INT.CL. : H01L 21/90

TITLE : SEMICONDUCTOR DEVICE



ABSTRACT : PURPOSE: To coat an air bridge wiring completely with a protective insulating layer, and to prevent the generation of a defective wiring due to the corrosion of a wiring layer by forming air bridge wiring structure insulated by air between an upper layer wiring and a lower layer wiring and shaping an insulating layer on the interface of the upper layer wiring and air.

CONSTITUTION: An insulating film 12 composed of  $\text{SiO}_2$ , etc., is shaped onto a semiconductor substrate B, and patterned, a first layer wiring 11 is formed, and an inter-layer insulating film 13 consisting of  $\text{SiNX}$  and an inter-layer insulating film 14 made up of  $\text{SiO}_2$  are shaped onto the whole surface on the substrate B. A resist pattern 15 for boring a through-hole is formed onto the insulating film 14, the insulating film 14 is dry-etched while using the pattern 15 as a mask, and the insulating film 13 is etched. The pattern 15 is peeled, the whole surface of the substrate B is coated with a coating type insulating film 16 composed of SOG, PI, etc., and the insulating film 16 is cured through heat treatment. Second wiring layers 17, 18 are shaped successively onto the substrate B, sections among the wiring layer 11 and the second wiring layers 17, 18 are insulated by air, and the whole surface of the substrate B is coated with a protective film 19.

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